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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,567	11/21/2001	Tac-Sung Jung	678-775 (P10024)	2637
66547 7590 05/15/2007 THE FARRELL LAW FIRM, P.C. 333 EARLE OVINGTON BOULEVARD SUITE 701 UNIONDALE, NY 11553			EXAMINER JOO, JOSHUA	
			ART UNIT 2154	PAPER NUMBER
			MAIL DATE 05/15/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/990,567		JUNG, TAE-SUNG	
	<b>Examiner</b>		<b>Art Unit</b>	
	Joshua Joo		2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 February 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-11 is/are rejected.
- 7) ☒ Claim(s) 4-5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Detailed Action***

**Response to Amendment filed 2/22/2007**

1. Claims 1-12 are presented for examination.

**Continued Examination Under 37 CFR 1.114**

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/22/2007 has been entered.

**Response to Arguments**

3. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

**Allowable Subject Matter**

4. Claim 12 is allowed.
5. Claims 4-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Priority**

6. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in the Korean Industrial Property Office on November 21, 2000 and assigned Serial No. 2000-69309.

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However, Applicant has not met the requirements for claiming foreign priority under 35 U.S.C. 119(a)-(d). A certified copy, and a translation of the certified copy if not in English, of the foreign application has not been received as required by 35 U.S.C. 119(b).

### **Drawings**

7. Figures 1-4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### **Specification**

8. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

i) Regarding claims 1 and 7, the term, "re-registration"

### **Claim Rejections - 35 USC § 103**

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 1-3, 6-9, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madour et al. US Patent #6,904,025 (Madour hereinafter), in view of Gustafsson et al, "Mobile IP Regional Registration" published in July 13, 2000 (Gustafsson hereinafter).

11. As per claim 1, Madour teaches substantially the invention as claimed including a regional tunnel management method in a mobile communication system using Mobile IP, the mobile communication system including a mobile node, a first GGSN (Gateway (GPRS) (General Packet Radio Service) serving agent for storing location information of the mobile node (GGSN2/FA<sub>2</sub>), a second GGSN for storing location information of the first GGSN (GGSN1/FA<sub>1</sub>), and a home agent connected to the second GGSN, for performing data communication with a correspondent node (col. 7, lines 55-59. home agent.), the method comprising the steps of:

transmitting a location registration request from the mobile node to the first GGSN (col. 7, lines 27-32. Equipment performs routing update procedure in new routing area. col. 6, lines 58-61; col. 7, lines 37-39. User equipment may initiate registration request.), and receiving an Agent advertisement (col. 6, lines 50-53. Foreign agent able to sent agent advertising messages) with information indicating that the first GGSN supports a foreign agent function (col. 7, lines 32-36, 43. Acquire new FA COA from foreign agent in the GGSN (GGSN2/FA<sub>2</sub>).);

registering by the second GGSN an address of the first GGSN to which the mobile node belongs (col. 5, line 65-col. 6, line 1; col. 7, line 46-48. Inform FA<sub>1</sub> that user equipment is at FA<sub>2</sub>. Claim 1. Route packets from first gateway to second gateway. Inherent that FA<sub>1</sub> registered FA<sub>2</sub> to forward packets.), and then transmitting to the home agent, during a re-registration, a Location information message indicating the address of the first GGSN to which the mobile node belongs (col. 7, lines 52-59. Registration request of FA<sub>2</sub> to home agent.).

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12. Madour does not specifically teach of a mobile node receiving an Agent Advertisement message with an address of the second GGSN, said Agent Advertisement message transmitted by the first GGSN, transmitting the location registration request from the first GGSN to the second GGSN.

Gustafsson teaches of a mobile node receiving an Agent Advertisement message with an address of a GFA, wherein a FA transmitted the Agent Advertisement message (Page. 7, section 3.3).

Gustafsson further teaches of transmitting a registration request from the FA to the GFA (page 9-10, section 3.4.2. page 26), and the GFA transmitting a location information message to the home agent (Pages 10-11. Section 3.4.3).

13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Madour with teachings of Gustafsson for the GGSN1/FA<sub>1</sub> to function as a gateway for the GGSN2/FA<sub>2</sub>, wherein the first GGSN (GGSN2/FA<sub>2</sub>) transmits an Agent Advertisement message with the address of a second gateway, in this case, the address of GGSN1/FA<sub>1</sub>; and for the FA (GGSN2/FA<sub>2</sub>) to transmit the location registration request to the GFA (GGSN1/FA<sub>1</sub>), which then transmits the location information to the home agent. The motivation for the suggested modification is that Gustafsson's teachings would provide support for regional registration at the GGSN1/FA<sub>1</sub>, and allow registration of the second GGSN (GGSN1/FA<sub>1</sub>) to receive data via the first GGSN (GGSN2/FA<sub>2</sub>).

14. As per claim 7, Madour teaches substantially the invention as claimed including a regional tunnel management method in a mobile communication system using Mobile IP, the mobile communication system including a mobile node, a first GGSN (Gateway GPRS (General Packet Radio Service) Support Node) serving as a foreign agent for storing current location information of the mobile node (col. 6, lines 50-61. User equipment registers with network, GGSN1/FA<sub>1</sub>) or serving as a gateway foreign agent for foreign agents existing in a specific region, and a home agent connected to the first GGSN (col. 7, lines

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55-59. home agent.), for performing data communication with a correspondent node, the method comprising the steps of:

creating by the mobile node a GTP (GPRS Tunneling Protocol) tunnel and receiving through the created GTP tunnel and Agent advertisement message indicating whether a second GGSN serves as the foreign agent or the gateway foreign agent, if the mobile node enters a region of the second GGSN (col. 7, lines 27-36. User equipment performs routing area update procedure. Receive new FA COA from PDP context activation response from foreign agent in the new GGSN (GGSN2/FA<sub>2</sub>).);

transmitting a first registration request message for requesting location registration from the mobile node to the second GGSN, if the second GGSN serves as the foreign agent (col. 6, lines 58-65; col. 7, lines 37-43. User equipment may initiate registration request.);

transmitting, during a re-registration, a Location Information message indicating location information of the mobile node from the "second" GGSN to the home agent (col. 7, lines 52-59. Registration request of FA<sub>2</sub> to home agent.).

15. Madour does not specifically teach of transmitting a second registration request message for requesting the location registration for the mobile node from the second GGSN to the first GGSN, if the first GGSN serves as the gateway foreign agent; and transmitting a Location Information message indicating location information of the mobile node from the first GGSN to the home agent, upon receiving the second registration request message.

Gustafsson teaches of transmitting a registration request message for requesting the location registration for the mobile node from the FA to the GFA (Page. 12, Section 3.5), and transmitting a Location Information message indicating location information of the mobile node from the GFA to the home agent, upon receiving the second registration request message. (Page. 9-12. Section 3.4.2-3.4.3 ; Page 26.).

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16. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Madour with teachings of Gustafsson for the GGSN1/FA<sub>1</sub> to function as a gateway for the GGSN2/FA<sub>2</sub>, wherein the FA (GGSN2/FA<sub>2</sub>) transmits a registration request message for requesting the location registration for the mobile node to the GFA (GGSN1/FA<sub>1</sub>), thus from the GGSN2/FA<sub>2</sub> to the GGSN1/FA<sub>1</sub>; and to transmit the Location Information message indicating location information of the mobile node from the GFA to the home agent, upon receiving the second registration request message. The motivation for the suggested modification is that that Gustafsson's teachings would provide support for regional registration through the GGSN1/FA<sub>1</sub>, and allow registration of the second GGSN (GGSN1/FA<sub>1</sub>) to receive data via the first GGSN (GGSN2/FA<sub>2</sub>).

17. As per claim 11, Madour teaches substantially the invention as claimed including a regional tunnel management method in a mobile communication system using Mobile IP, the method comprising the steps of:

moving by a mobile node from a current region of a second GGSN (Gateway GPRS (General Packet Radio Service) Support node) to a new region of a first GGSN (col. 7, lines 25-36. User equipment roams into new routing area. New foreign agent in the new GGSN. GGSN2/FA<sub>2</sub>),

wherein the first GGSN serves as a foreign agent for storing location information of the mobile node (col. 7, lines 25-36. Acquire new FA COA from new foreign agent in the new GGSN.), the second GGSN stores location information of the first GGSN (col. 7, lines 44-49. New foreign agent communicates with old foreign agent. Claim 1. Transmit data from first gateway to second gateway.), and a home agent is connected to the second GGSN for performing data communication with a correspondent node (col. 7, lines 4-9. Components of GGSN1 sent registration request to home environment, forwarded to home agent.);



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transmitting by the first GGSN an Agent Advertisement message and information indicating that the first GGSN supports a foreign agent function (col. 7, lines 32-36, 43. User equipment receives new FA COA from foreign agent in the GGSN (GGSN2/FA<sub>2</sub>).);

receiving said Agent Advertisement message by the mobile node (col. 6, lines 50-54. Care-of-address from agent advertising messages. col. 7, lines 33-35. Acquire new FA COA.) and transmitting a location registration request from the mobile node to the first GGSN (col. 7, lines 27-32. User equipment performs routing update procedure in new routing area. col. 6, lines 58-61; col. 7, lines 37-39. User equipment may initiate registration request.),

transmitting the location registration request from the first GGSN to the “home agent”, the location registration request including the address of the first GGSN to which the mobile node belongs (col. 7, lines 52-59. Registration request of FA<sub>2</sub> to home agent. Update routing table.); and

registering by the second GGSN an address of the first GGSN to which the mobile node belongs, and transmitting by the “first” GGSN to the home agent (col. 7, lines 44-49. New foreign agent communicates with old foreign agent. Claim 1. Transmit data from first gateway to second gateway. Inherent that second GGSN registers first GGSN to transmit data.), a location information message indicating the address of the first GGSN to which the mobile node belongs (col. 7, lines 52-59. Registration request of FA<sub>2</sub> to home agent.).

18. Madour does not specifically teach of an Agent Advertisement message with an address of the second GGSN, transmitting the location registration request from the first GGSN to the second GGSN, and transmitting by the second GGSN to the home agent, a location information message.

Gustafsson teaches of a mobile node receiving an Agent Advertisement message with an address of a GFA, wherein a FA transmitted the Agent Advertisement message (Page. 7, section 3.3).

Gustafsson further teaches of transmitting a registration request from the FA to the GFA (Page 9-10,

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section 3.4.2; Page 26.), and the GFA transmitting a location information message to the home agent (Pages 10-11. Section 3.4.3).

19. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Madour with teachings of Gustafsson for the GGSN1/FA<sub>1</sub> to function as a gateway for the GGSN2/FA<sub>2</sub>, wherein the first GGSN (GGSN2/FA<sub>2</sub>) transmits an Agent Advertisement message with the address of a second gateway, in this case, the address of GGSN1/FA<sub>1</sub>; and for the FA (GGSN2/FA<sub>2</sub>) to transmit the location registration request to the GFA (GGSN1/FA<sub>1</sub>), which then transmits the location information to the home agent. The motivation for the suggested modification is that Gustafsson's teachings would provide support for regional registration at the GGSN1/FA<sub>1</sub>, and allow registration of the second GGSN (GGSN1/FA<sub>1</sub>) to receive data via the first GGSN (GGSN2/FA<sub>2</sub>).

20. As per claim 2, Madour does not specifically teach the method as claimed in claim 1, wherein the location registration request transmitted by the mobile node includes the address of the first GGSN to which the mobile node belongs.

Gustafsson teaches of a mobile node transmits a registration request with the address of the foreign agent (Page 9, section 3.4.2).

21. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Madour and Gustafsson for the mobile node to transmit a registration request with the address of the foreign agent, which would indicate that mobile node has set its care-of-address to the foreign agent and is assigned to the foreign agent.

22. As per claim 3, Madour teaches the method as claimed in claim 1, wherein the Agent Advertisement message is transmitted through a tunnel between the mobile node and first GGSN (col. 7,

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lines 32-35. Receive FA COA from PDP context activation. Inherent that tunneling is a protocol of GPRS.).

23. As per claims 6 and 8, Madour does not specifically teach the method as claimed in claim 1, wherein the Location Information message includes the address of the first GGSN and the address of the second GGSN.

Gustafsson teaches of the registration request contains the address of the GFA and the address of the FA (Page. 9-10. Section 3.4.2).

24. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Madour and Gustafsson for the registration request to contain the address of the GFA and the address of the FA, which would allow the host agent to maintain an entry of care-of-addresses of the mobile node.

25. As per claim 9, Madour teaches the method as claimed in claim 7, further comprising the steps of transmitting the Location Information message indicating the location information of the mobile node from the second GGSN to the home agent, upon receiving the first registration request message (col. 7, lines 49-63. FA2 sends registration request to AAA server, which forwards to the home agent.).

26. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Madour and Gustafsson, in view of La Porta et al. US Patent #6,434,134 (La Porta hereinafter).

27. As per claim 10, Madour does not specifically teach the method as claimed in claim 7, further comprising the step of, upon receiving data destined for the mobile node from the correspondent node

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after receiving the Location Information message, transmitting the received data from the home agent to the second GGSN to which the mobile node is currently connected.

La Porta teaches of a home agent receiving packets sent from a correspondent node and transmitting the packets to the care-of address registered with the mobile device (col. 1, lines 25-37).

28. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Madour, Gustafsson, and La Porta for the home agent to receive packets from a correspondent node and transmit the received data from the home agent to the care-of address registered with the mobile device, which would allow the mobile device to receive packet when moving from different regions, e.g. foreign agents.

### **Conclusion**

29. A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action.

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Joo whose telephone number is 571 272-3966. The examiner can normally be reached on Monday to Thursday 8AM to 5PM and every other Friday.

31. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

32. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available

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through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
NATHAN FLYNN  
SUPERVISORY PATENT EXAMINER

May 4, 2007

JJ